Dr. Mohammad Aijaz, M.Tech., Ph.D

Electrical Engineering – Power Electronics & Renewable Energy Systems
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Willing to Relocate: **Yes**

PROFESSIONAL PROFILE

PhD-qualified Electrical Engineering academic with more than **15 years of university teaching and research experience** in Power Electronics, Electrical Machines, Control Systems, and Renewable Energy Systems. Experienced in **Outcome-Based Education (OBE), NBA and NAAC accreditation processes, curriculum development, laboratory supervision, and academic administration**.

Published **30+ research papers including Scopus indexed journals, Web of Science papers, and IEEE conference proceedings**. Research interests focus on **renewable energy integration, intelligent power converters, smart grid technologies, and machine learning applications in power systems**.

Seeking **Assistant Professor / Associate Professor positions in international universities**, particularly in GCC countries.

TEACHING PHILOSOPHY

My teaching philosophy focuses on student-centered learning, practical understanding of engineering concepts, and research-based teaching. I emphasize the integration of theoretical knowledge with real-world applications through laboratory experiments, simulations, and project-based learning. I encourage critical thinking, innovation, and collaborative learning among students. I also actively incorporate Outcome-Based Education (OBE) principles to ensure alignment between course outcomes, program outcomes, and industry requirements.

Laboratory Development

- Developed Power Electronics Laboratory experiments using MATLAB/Simulink.
- Designed Renewable Energy Systems laboratory experiments.
- Implemented simulation-based learning using MATLAB and PSPICE.
- Supervised laboratory projects on inverters, converters, and motor drives.

Research Projects

- Hybrid Renewable Energy System for Smart Grid Applications.
- Intelligent Control of Power Electronic Converters using AI Techniques.
- Machine Learning Based Energy Management for Microgrid Systems.

RESEARCH INTERESTS

- Hybrid Renewable Energy Systems
- Power Electronics Converters
- Smart Grid and Microgrid Control
- Energy Management Systems
- Machine Learning Applications in Power Systems
- Solar–Wind Hybrid Systems
- Grid Integration of Renewable Energy

EDUCATION

PhD – Electrical Engineering
Bharath Institute of Higher Education & Research, Chennai, India
Year: 2025
Thesis:
Energy Management of Hybrid Energy Sources with Advanced Control Strategies
M.Tech – Power Electronics
Jawaharlal Nehru Technological University, India
Year: 2013
B.Tech – Electrical & Electronics Engineering
Kakatiya University, India
Year: 2007

ACADEMIC EXPERIENCE

Associate Professor & Head of Department

Kodada Institute of Technology & Science for Women
India 2018 – Present
Responsibilities

- Teaching undergraduate and postgraduate courses
- Implementing Outcome-Based Education (OBE)
- NBA & NAAC accreditation documentation
- Curriculum development
- Laboratory development
- Supervising student projects

Assistant Professor

Kodada Institute of Technology & Science for Women
2013 – 2018
Responsibilities

- Teaching core electrical engineering courses
- Supervising undergraduate and postgraduate projects
- Assisting in curriculum development

Lecturer

Vazir Sultan College of Engineering 2008 – 2011

Teaching Assistant

Sri Raja Rajeswari Engineering College 2007 – 2008

COURSES TAUGHT

- Power Electronics
- Electrical Machines
- Control Systems
- Power Systems Engineering
- Network Analysis
- Basic Electrical Engineering
- Renewable Energy Systems
- Electrical Measurements & Instrumentation
- Machine Learning for Engineers

STUDENT SUPERVISION

Undergraduate Projects Supervised: **65+**
Postgraduate Projects Supervised: **30+**

RESEARCH PROFILE

Total Publications: **30+**
Scopus Indexed Papers: **15**
Web of Science Papers: **3**
UGC CARE Journals: **12**
Citations: **82**
H-Index: **5**

Research Areas

- Hybrid Renewable Energy Systems
- Smart Grid Control
- Intelligent Power Converters
- ML-based Energy Optimization

SELECTED JOURNAL PUBLICATIONS

1. Wavelet-ANN Based Detection of Fault Location of Hybrid Renewable Energy Sources Connected Power Transmission System. *International Journal of Renewable Energy Research*
2. Study of Power Electronic Converter and Modeling of PID Controller: An Analytical Study.*International Journal in IT and Engineering*
3. Assessment of DC-DC VDD-Hopping Converter & its Controlling in Power Electronics. *International Journal of Research in Engineering and Applied Sciences*

CONFERENCE PUBLICATIONS

1. ANFIS-based Voltage Source Converter for Energy Management of Grid-Integrated Renewable Energy Sources. IEEE ICCSP 2024.
2. Neural Network Based Voltage Source Converter for Power Management of Hybrid Energy System. INCOS 2024.
3. Management of Integrated Renewable Energy Sources using Fuzzy Logic Controllers. ICEES 2023.
4. Fuzzy Logic Controller based Multilevel Inverters Integrated Speed Control of Induction Motors. INCET 2022.
5. Active Shunt Power Filter using ANN Controller for Wind Turbine – PMSG Interfaced to Grid. INCET 2021.

PATENT

1. Wavelet-Based Algorithm for Faulty Line and Phase Identification in Power Transmission Systems.

TECHNICAL SKILLS

- MATLAB / Simulink
- PSPICE
- Power System Simulation
- Machine Learning Applications
- Academic Research Writing

ACADEMIC & ADMINISTRATIVE SERVICE

- NBA Accreditation Coordinator
- NAAC Documentation
- Training & Placement Officer
- Faculty Advisor / Class In-Charge
- Examination and Evaluation Committee Member

PROFESSIONAL MEMBERSHIP

International Association of Engineers (IAENG)

CERTIFICATIONS

NPTEL – Principles of Electrical Sciences
NPTEL – Internet of Things
NPTEL – Industrial IoT 4.0

REFERENCES

Available upon request.